

NOKIA 1100

RH-18



Transceiver Features

- Flashlight
- Alarm clock
- Phonebook with up to 50 names in internal memory
- Distribution lists and concatenated text (SMS) messaging
- Date and time screensavers
- Built-in alarm and reminders
- Stopwatch and countdown timer
- Full-size animated screensavers
- Two built-in games
- Conference call *
- Internal antenna
- Automatic keyguard lock
- Keyguard lock with security code

*This feature is network and subscription-dependent. Please check availability with your network operator.

Transceiver with BL-5C Li-ion 850mAh battery pack

Talk time	Standby	Note
Up to 2h-4.5h	Up to 100h - 400h	Depends on network parameters

SERVICE MANUAL

Service Level 1&2

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CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	21.10.2003	Initial draft
Approved	1.0	03.11.2003	approval

1. INTRODUCTION

The purpose of this document is to help Nokia service levels 1 and 2 workshop technicians to carry out service to Nokia 1100. This Service Manual is to be used **only** by authorized Nokia service partners, and the content of it is **confidential**. Please note that Nokia provides also other guidance documents (e.g. Service Bulletins) for service partners, follow these regularly and comply with the given instructions.

While every endeavor has been made to ensure the accuracy of this document, some errors may exist. If you find any errors or if you have further suggestions, please notify Nokia using the address below:

<mailto:cc-ts-rc.documentation@nokia.com>

Please keep in mind also that this documentation is continuously being updated and modified, so watch always out for the newest version.

Warnings and Cautions

Please refer to the phone's user guide for instructions relating to operation, care and maintenance including important safety information. Note also the following:

Warnings:

1. CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI-SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.
2. THE HANDPORTABLE TELEPHONE MUST NOT BE OPERATED IN AREAS LIKELY TO CONTAIN POTENTIALLY EXPLOSIVE ATMOSPHERES EG PETROL STATIONS (SERVICE STATIONS), BLASTING AREAS ETC.
3. OPERATION OF ANY RADIO TRANSMITTING EQUIPMENT, INCLUDING CELLULAR TELEPHONES, MAY INTERFERE WITH THE FUNCTIONALITY OF INADEQUATELY PROTECTED MEDICAL DEVICES. CONSULT A PHYSICIAN OR THE MANUFACTURER OF THE MEDICAL DEVICE IF YOU HAVE ANY QUESTIONS. OTHER ELECTRONIC EQUIPMENT MAY ALSO BE SUBJECT TO INTERFERENCE.

Cautions:

1. Servicing and alignment must be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti-static workstation and that an anti-static wrist strap is worn.
3. Ensure solder, wire, or foreign matter does not enter the telephone as damage may result.
4. Use only approved components as specified in the parts list.
5. Ensure all components, modules screws and insulators are correctly re-fitted after servicing and alignment. Ensure all cables and wires are repositioned correctly.
6. All PC's used with NMP Service Software for this produce must be bios and operating system "Year 2000 Compliant".



Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Supplier has to take care of all precautions, which are mentioned in the service level related "Service Partner Requirements", available on Nokia Partner Web Site. Also see ESD Protection Requirements in this Service Manual.

2. GENERAL REPAIR INFORMATION

IN THIS SECTION THE TECHNICIAN WILL GET SOME GENERAL HINTS HOW TO CARRY OUT REPAIRS:

- To familiarize oneself with Nokia 1100 read the tutorials or user guide on www.nokia.com -->Support--> Phones, by selecting the Phone Model.
- Before starting the repair you must take care of ESD precautions like being in your ESD Protected Area and connecting your wristband.
- Use gloves to avoid corrosion and fingerprints.
- Protect windows and displays with a film to avoid dust and scratches.
- When cleaning the pads you have to use a soft cloth/ESD brush and Isopropanol. It is not allowed to use a glass fiber pencil because it scratches the surface and will lead later on to corrosion.
- Mechanical parts (except shielding lids), which didn't repair the failure, can be reused, if they are not soldered.
- When removing the shielding lids make sure to replace them with new ones, otherwise the high-frequency leakage can have an influence on the device.
- Use always original Nokia spare parts.
- Check the soldering joints of the parts which are concerned regarding the indicated error (e.g. soldered connectors or switches) and resolder them if necessary (Level 2 only).
- Remove redundant soldering flux after repair.
- Meet the torque requirements when assembling the unit (see also the document "torques for transceiver assembly" on Nokia Partner Web Site).
- Always use your own equipment for testing where you are sure that it works. E.g. if the customer complains about charger function, please test the phone with your own charger to be sure if phone or charger causes the malfunction.
- When doing the Faultlogger entries, always note the Item code, which caused the malfunction. Also, fill in the appropriate part code from the assembly, if needed.
- Please be aware that some malfunctions could be software related and solved by an update.

These mention Service Bulletins have to be followed:

General

- SB-027: Original Nokia Accessories
- SB-089: Don't try to repair prototypes (indicated on Type Label).
- SB-107: Be sure that you have minimum hardware requirements in place.
- SB-115: Handling of liquid damages.
- SB-121: Return the defective part, if one of your service tools causes malfunction.
- SB-124: Service Policy for packaging serviced products
- SB-131: Check these guidelines when refurbishing products.
- SB-148: Improvements to Faultlog Reporting Tool
- SB-156: Packing Material
- SB-161: New structure of General Bulletins
- SB-163: Service handling of PWBs and PCBs during repair process
- SB-164: New barcode for future products
- SB-165: NMP Global Symptom Codes
- SB-167: NMP Global Fault Codes (Level 1&2)

Service Tools

- SB-011: NMP Standard Toolkit

Spare Parts

- SB-004: New swap phone cartons

Please check Nokia Partner Web Site (PWS) for latest news and files on a regular basis.

3. PATHFINDER FOR WORKSHOP STAFF

In addition to the information in this Service Manual, there are several instructions and information, which have to be followed.

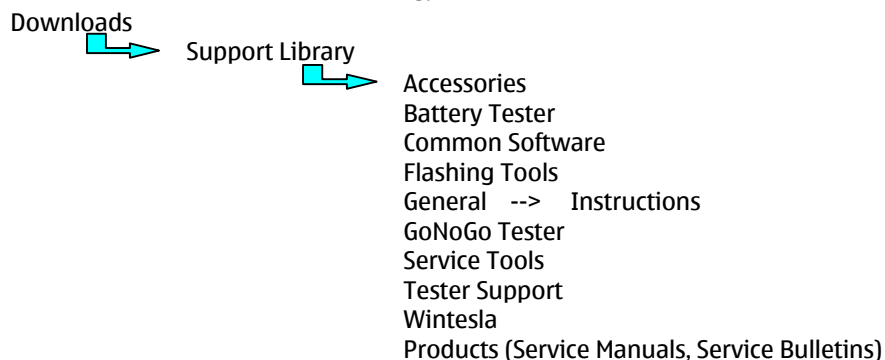
Main documentation database is [Nokia Partner Website](#), which refers also to [Nokia Care Point](#) with the purpose of serving different multimedia content, like video clips or interactive tutorials.

Nokia Partner Web Site	Nokia Care Point (access trough Partner Web Site)
<p>Nokia Partner Web Site for EMEA region is the most important document database for all service suppliers (level 1-4). All service relevant information like e.g. Service Manuals, Service Bulletins or general instructions are available. Content is restricted according your access level. To be kept up-to-date also concerning newest software updates, a daily check of "latest updates in support library" is needed.</p>	<p>Nokia Care Point is repair support and training channel for Nokia service suppliers (mainly for service levels 1 and 2). By providing visual and easy to learn support and training material, such as illustrative repair videos, troubleshooting with pictures, product information and general repair information, Nokia Care Point offers user-friendly channel for service partners to learn technical issues.</p>
	

It is mandatory to watch for newest technical and organizational information on a daily basis to be updated as required (see "**Latest Updates in support Library**"). Every new information has to be processed and implemented as soon as possible.

When logged into PWS you can also find needed information to different headlines respectively tools

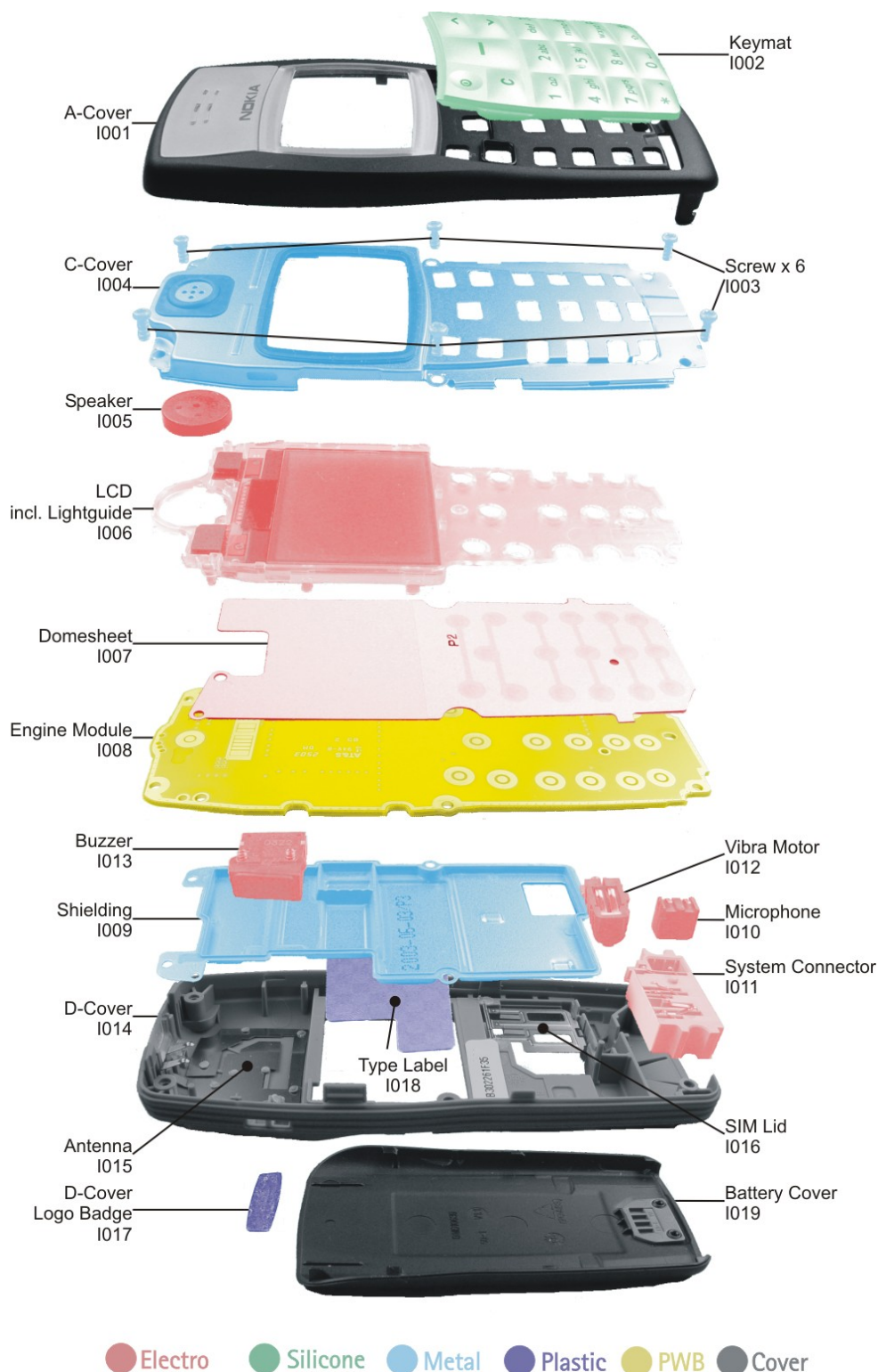
like:



To spare server bandwidth it is recommended to download newest version of huge files like videos, Phoenix packages or Service Manuals only once and distribute it internally for further use.

4. EXPLODED VIEW AND COMPONENT DISPOSAL

Recommendation for the ecologically friendly disposal of components. Colorized components show the different categories.



Description: See corresponding ITEM/CIRCUIT REF of the SPL (Spare Parts List)

5. SPARE PARTS LIST

MECHANICAL PARTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
I001	1	XXXXXXX	A-COVER SUB ASSY
I002	1	XXXXXXX	KEYMAT
I003	6	6290083	SCREW 1.8X5.3 T6+
	1	4850341	DISPLAY ASSY
I004	1	-	C-COVER
I005	1	5140233	SPEAKER
I006	1	-	LCD INCL. LIGHTGUIDE
I007	1	9795200	DOMESHEET
I008	1	-	ENGINE MODULE
I009	1	-	SHIELDING
I010	1	5140201	MICROPHONE
I011	1	5460111	SYSTEM CONNECTOR
I012	1	6800053	VIBRA MOTOR
I013	1	5140287	BUZZER
	1	9491905	D-COVER ASSY
I014	1	-	D-COVER
I015	1	-	ANTENNA
I016	1	-	SIM LID
I017	1	-	D-COVER LOGO BADGE
I018	1	-	TYPE LABEL
I019	1	XXXXXXX	BATTERY-COVER

SOLDERING COMPONENTS **ONLY FOR LEVEL 2**

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
V321	1	4860701	FLASHLIGHT LED WHITE
F100	1	5119019	SM FUSE F 1.5A 32V

VARIANT PARTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
I001		9491765	A-COVER BLUE
I001		9491766	A-COVER TERRA
I001		9491791	A-COVER BLACK
I002		9491422	KEYMAT LATIN
I002		9491421	KEYMAT HEBREW
I002		9491429	KEYMAT ARABIC
I002		9491427	KEYMAT CYRILLIC
I002		9491428	KEYMAT GREEK
I002		9791223	KEYMAT FARSI
I019		9491758	BATTERY COVER BLUE
I019		9491757	BATTERY COVER TERRA
I019		9491793	BATTERY COVER BLACK

SWAP UNITS

	QTY	PART NO	PART NAME
		0050388	RH-18 1100 SWAP ENGINE EUROPE & AFRICA
		0050389	RH-18 1100 SWAP ENGINE POLAND
		0050390	RH-18 1100 SWAP ENGINE TURKEY
		0050391	RH-18 1100 SWAP ENGINE FRANCE
		0050392	RH-18 1100 SWAP ENGINE CZECH
		0050393	RH-18 1100 SWAP ENGINE SOUTH AFRICA
		0050394	RH-18 1100 SWAP ENGINE RUSSIA
		0050395	RH-18 1100 SWAP ENGINE UKRAINE

SERVICE TOOLS

TYPE	QTY	PART NO	PART NAME
		0080541	FLS-4S SALES PACK E&A (INCLUSIVE 0680032)
		0680032	UNIV. POWERSUPPLY ACF-8
ACCESSORY		0273558	BL-5C BATTERY PACK LI-IO 850MAH
ACCESSORY		0272169	AC TRAVEL CHARGER ACP-8C (EUR)
ACCESSORY		0272172	AC TRAVEL CHARGER ACP-8X (UK)
ACCESSORY		0271467	HDC-5 HEADSET
		0770748	SF-10 FLASH ADAPTER
		0770740	RJ-12 SOLDERING JIG
		0772040	STANDARD TOOLKIT
		0730218	XCS-1 SERVICE CABLE
		0770442	SF-10 TEST PINS (10 PCS)

6. SERVICE TOOLS



ACF-8

Universal Power Supply is used to power FLS-4S.



FLS-4S incl. Driver and User Guide

is a dongle and flash device incorporated into one package, developed specifically for POS use.



XCS-1

Service Cable is used to connect FLS-4S to SF-10.



Internal Battery BL-5C

Inserted under the back cover, this Li-ion battery provides power in a lightweight package.



Travel Charger ACP-8E/ACP-8X

Lightweight multi-voltage charger for charging your phone battery.



Headset HDC-5

An easy and convenient handsfree solution with remote control.



SF-10

POS Flash Adapter is used in POS (Point of Sales) environment for software updating. It provides controlled supply voltage and necessary connections between the phone and the Flash Device. It substitutes for the phone's standard battery during the software update.



RJ-12

Soldering Jig (for Level 2 or higher service level supplier)



Test pins

for POS Flash Adapter SF-10

NMP code 0772040



Content

- Nokia opening tool SRT-6 Nokia No. 0770431
- Tonichi torque driver Nokia No. 6901525
- [Hoya](#) micro fibre cloth MX304
- [Dastex](#) gloves S, M, XL
- [Artlux](#) goggles AH166
- [Wera](#) bit T5 867/4TX 5x50
- Wera bit T6 867/4TX 6x50
- Wera bit T6 PLUS® 867/4TX 6IP
- [Facom](#) side cutter 416E
- Facom T5 driver SP.14032
- Facom T6 driver SP.14033
- Facom slot screwdriver AEF. 2x35.E
- [Wetec](#) tweezers 7abb SA-ESD
- Wetec tweezers 22 SA-ESD
- Wetec tweezers 13 SA-SMD ESD
- Wetec tweezers PSF SA-ESD
- Wetec ESD brush E1211
- [Kaiser Fototechnik](#) airbrush 6315
- Wetec dental tool DEM83266/0
- [RS Components](#) Scissors 323-5732

7. SW-UPDATE

To use FLS-4S Flash Dongle you have to follow the user guide inside the sales package. Please check always the latest version of flash software, which is available on Nokia Partner Web Site

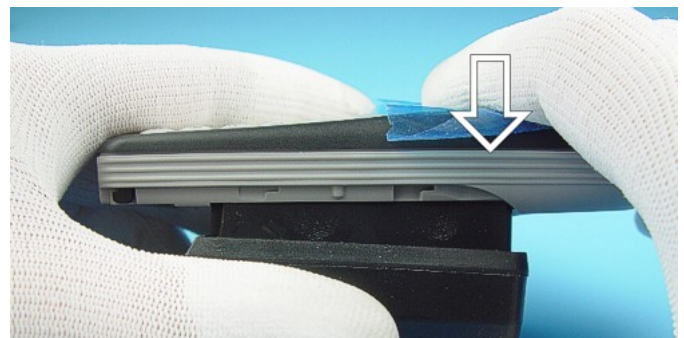
Flash Concept – (Point of Sales)



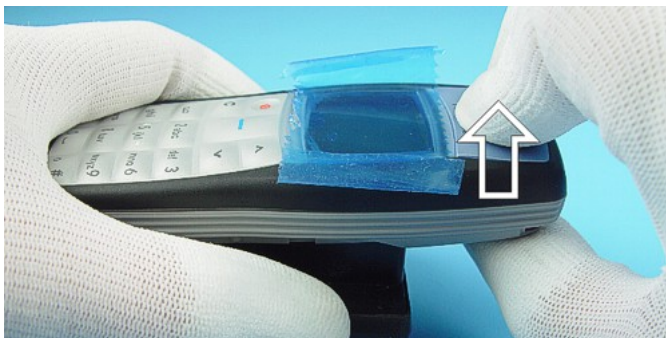
It is very important to follow this insertion and removal procedure otherwise the contact pins of Flash Adapter will be damaged.



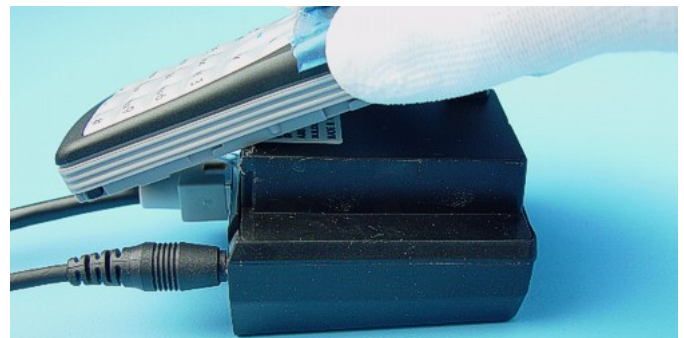
Note: the Battery Connector in comparison with other products is located on the bottom side of the phone. Before starting the flash process, be sure that SIM Lid is closed. Insert the Flash Adapter SF-10 like a battery, start at the Battery Connector side.



Now, push down the top side of the Phone, do not use too much force.



When removing the Flash Adapter always start from the top side.

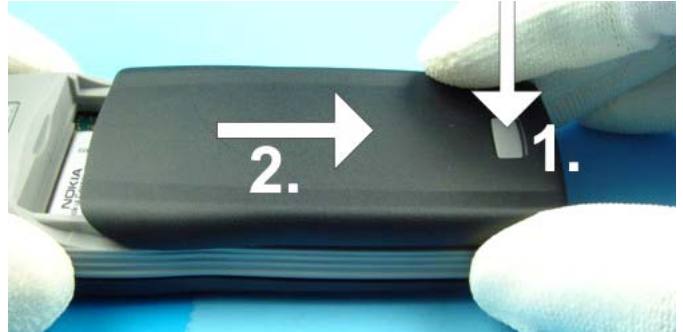


Now, take away the unit.

8. DISASSEMBLY INSTRUCTIONS (ALSO SEE THE VIDEO CLIPS ON CARE POINT)



If not already done protect Window with a film to avoid dust and scratches.



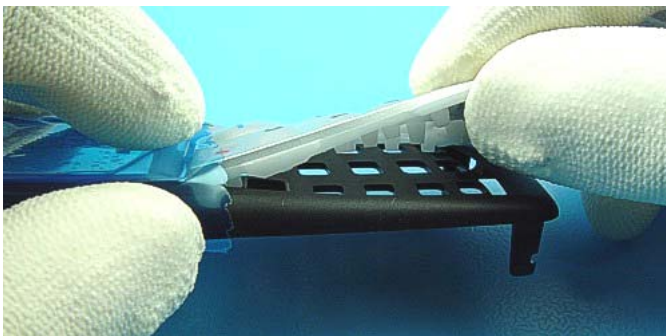
Press the Release Button before removing the Battery Cover.



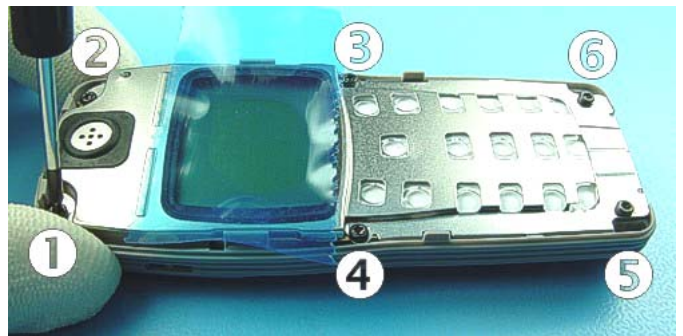
Open A-Cover from bottom side on.



Use SRT-6 to unlock Keymat from A-Cover.



Now, Keymat can be taken away easily.



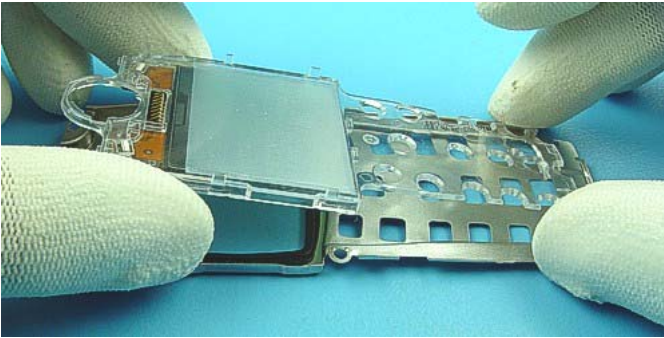
Unscrew the six Torx Plus® size 6 screws. **For assembly, the reverse order and a Torx Plus® driver with a torque of 21Ncm have to be used.**



Take C-Cover from Engine Module.



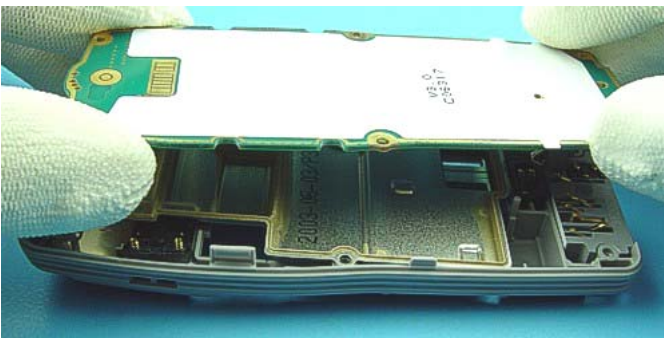
Unlock LCD snaps on both sides of the display.



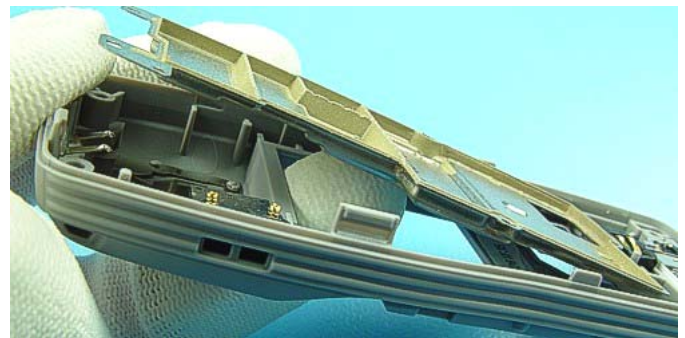
Remove LCD inclusive Lightguide.



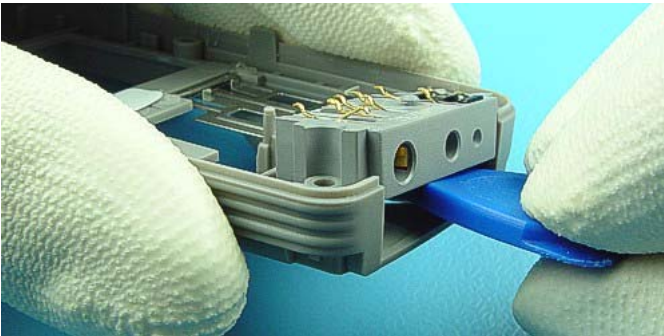
Use tweezers when removing the Speaker.



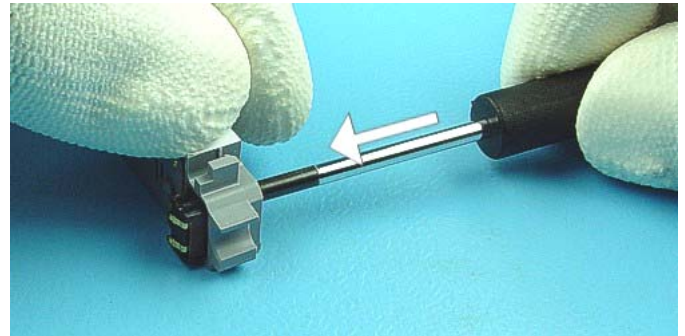
Take Engine Module from D-Cover.



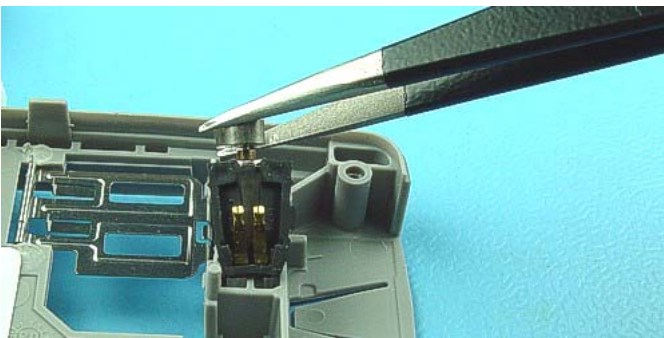
Lever out Shielding, beginning from the top side of the unit.



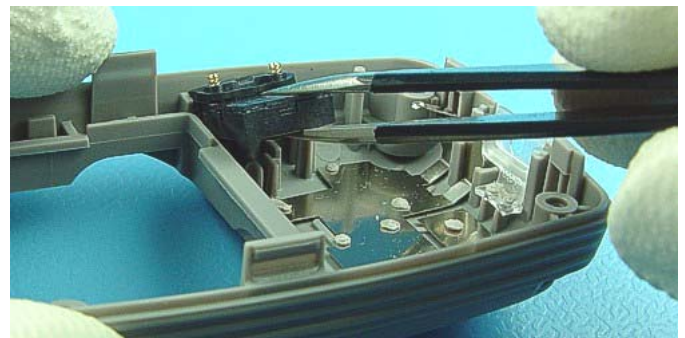
If System Connector is tight in the D-Cover, SRT-6 should be used to loosen it.



Carefully push out Microphone from System Connector. Moderate force is required for this action.

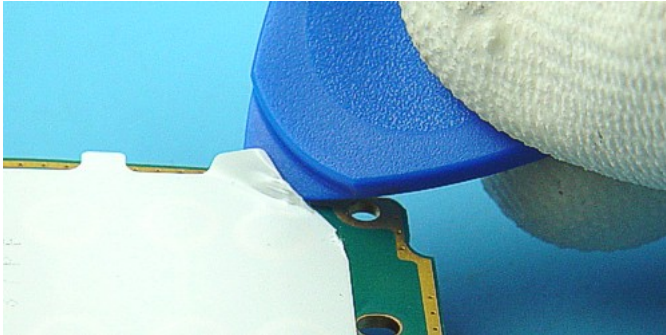


Lever out Vibra Motor with tweezers.

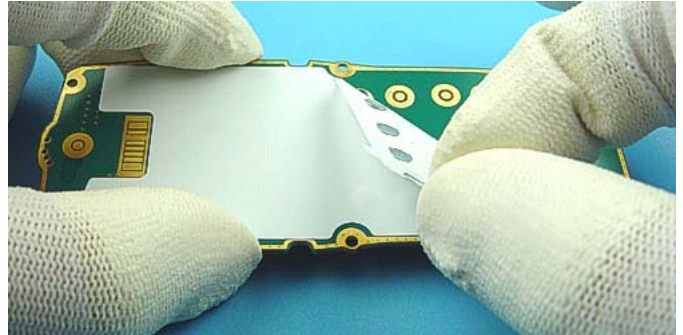


Remove Buzzer from its guidance. Do not damage the spring contacts.

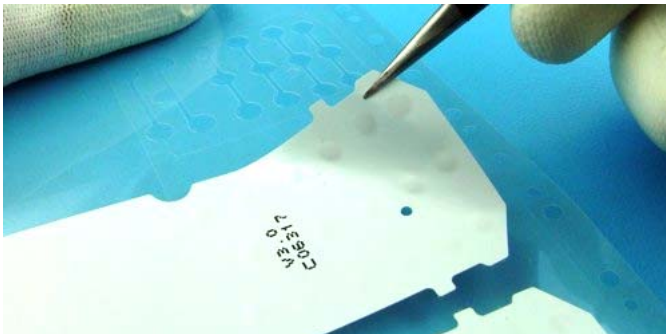
9. DOME SHEET EXCHANGE



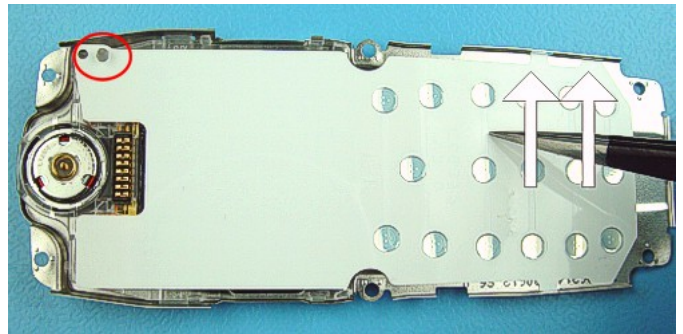
Use SRT-6 to loosen one corner of the Dome Sheet.



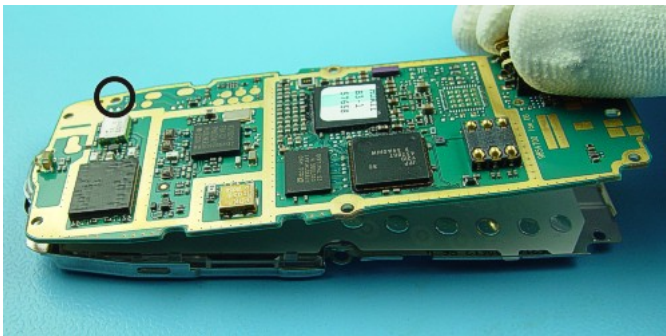
Tear off Dome Sheet in diagonal direction to avoid remains of glue. Check pads for cleanliness.



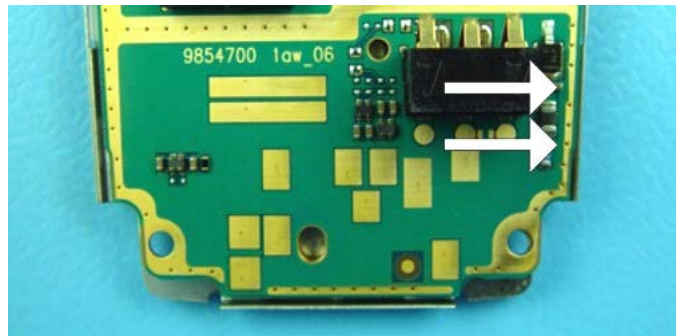
Take a new Dome Sheet from carrier film. Do not touch the keydome from adhesive side.



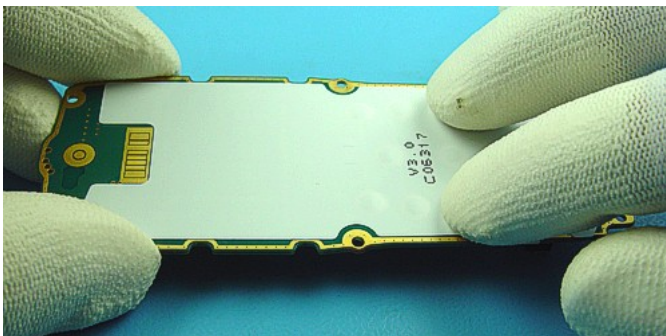
Use the guiding pin and the C-Cover's edge as reference point.



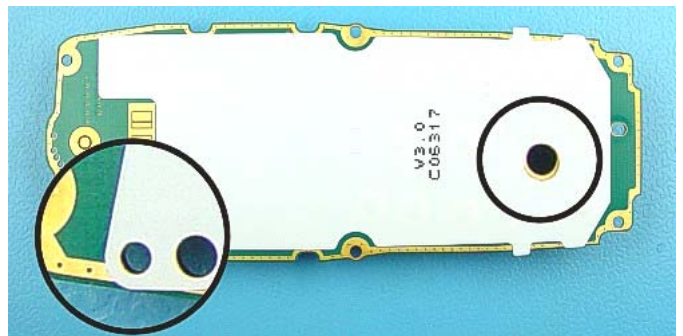
Carefully place Engine Module from topside on. Note the guiding pin.



Before sinking the Engine Module, make sure that it is also close to the same side of the shielding.








Carefully press-on the Dome sheet to the Engine Module to avoid bubbles.



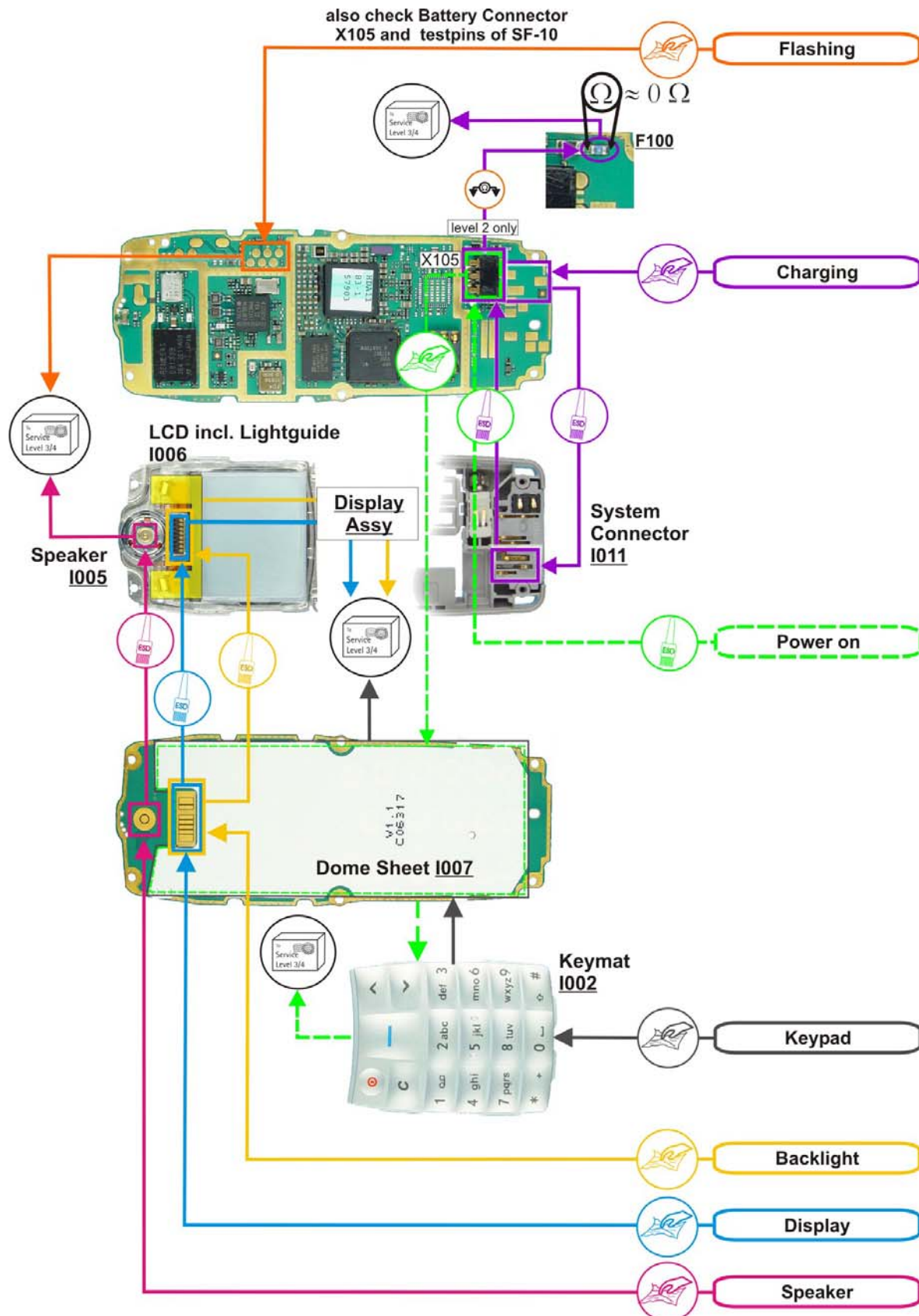
Finally check, if the holes of the Dome Sheet match exactly to the ones in the Engine Module. Otherwise change Dome Sheet again! Check Keyboard functionality.

10. LEGEND FOR QUICK TROUBLE SHOOTER

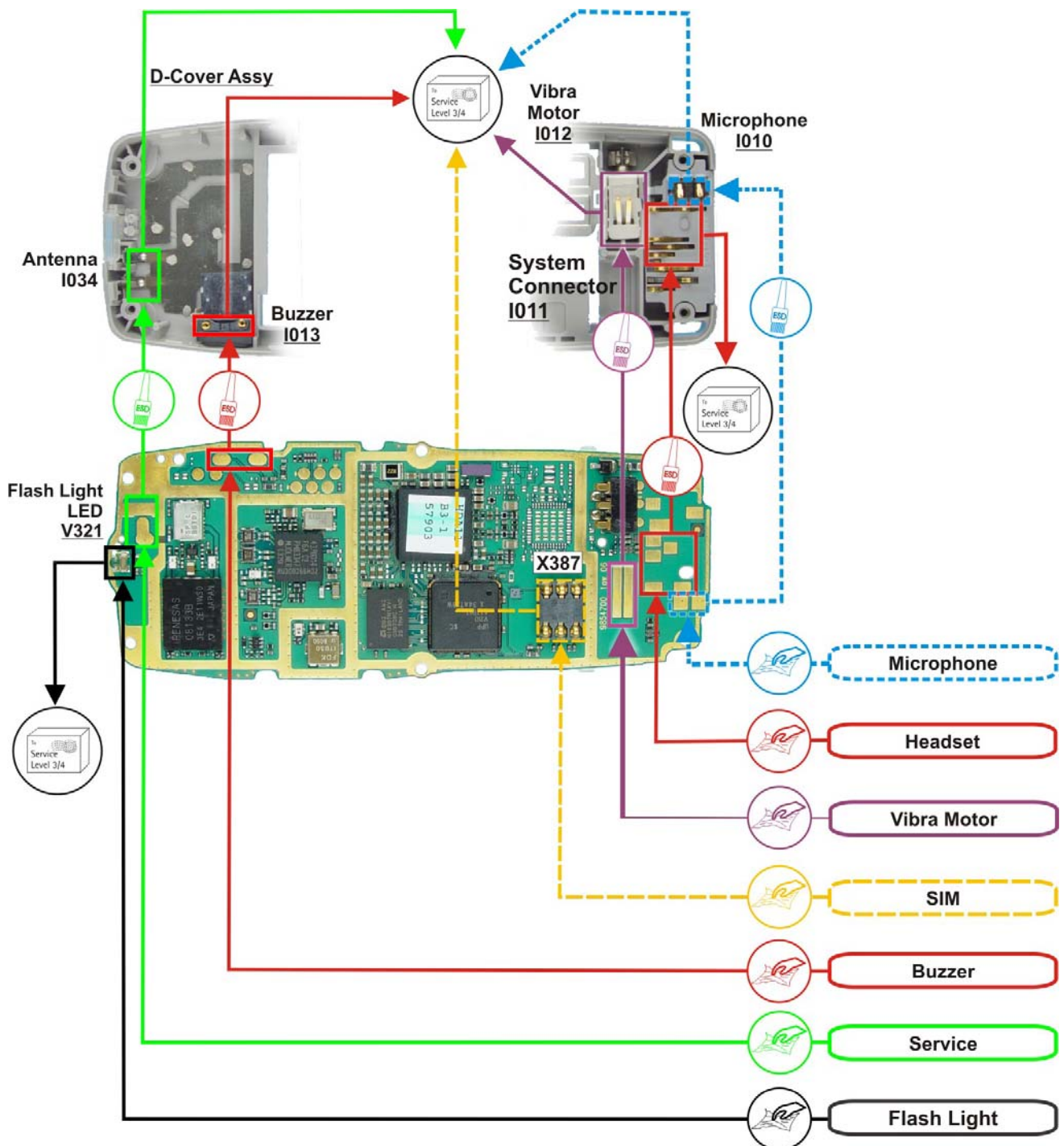
This legend is valid for all parts of the **Quick Trouble Shooter**

Follow the steps until the problem is solved. If this doesn't help, you are not authorized to go forward. Only underlined components (e.g. <u>1002</u>) can be changed.	
Fault symptom	The start point of repair activities regarding the appeared fault symptoms.
	Follow the arrows step by step
	Pads or contacts: Check optical and mechanical condition particularly regarding to corrosion. Clean if necessary.
	Measure component for electrical functionality and change, if needed. (Level 2 only)
	Pads or contacts: Check optical and mechanical condition particularly regarding to corrosion. Clean with ESD brush only, if necessary.
	No more actions possible send product to the appropriate service partner with higher service level.

11. QUICK TROUBLE SHOOTER PART 1



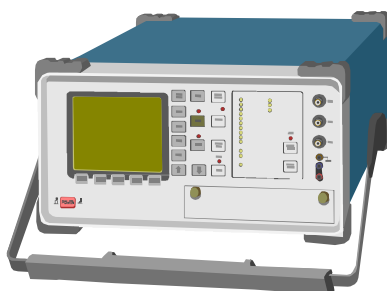
12. QUICK TROUBLE SHOOTER PART 2



13.GONOGO TEST

After the optical check a GoNoGo test has to be carried out if the unit has been unscrewed to guarantee the functionality of the phone.

Please refer to the actual information on Partner Web Site and Nokia Care Point. When using delivered tester files, take care of the right setup according to the tester type and product type. Please refer to “Recommended Service Equipment” on Nokia Partner Web Site.



Mobile Phone Tester

14.BATTERY TEST

A battery tester lets you test the capacity of Nokia batteries.

Please refer to the actual information on Partner Web Site.



<http://www.astratec.co.uk/>



<http://www.cadex.com/>

15.SERVICE NOTES

We recommend using Service Notes when shipping phones to other Service Partners. It prevents the product from scratches, it is ESD-neutral and has the possibility to give valuable feedback of the fault symptom through a structured form. Please refer to the document [Service Notes for faulty NMP transceiver](#) on Partner Web Site to get further information.

Sender <u>Repair Center</u>		Our Ref. <u>4711</u>
Handled by _____		Product Code <u>050381</u>
Serial n.o.: <u>449333/20/975406/2</u>		Date <u>10.07.01</u>
Yes <input checked="" type="checkbox"/> Warranty Case <input type="checkbox"/> No		Inst <input type="checkbox"/> Instant Service <input type="checkbox"/> DOA
<input checked="" type="checkbox"/> R Repair	<input type="checkbox"/> RR Repair and Refurbishment	
<input type="checkbox"/> RO Refurbishment only	<input type="checkbox"/> SW Software update	
<input type="checkbox"/> A Analysis	<input type="checkbox"/> C Claim	
<input type="checkbox"/> 24h 24 h Service	<input checked="" type="checkbox"/> SR Special Request <u>Save User data</u>	

A) EXISTENCE OF FAULT

1. <input checked="" type="checkbox"/> Continuous fault	2. <input type="checkbox"/> Intermittent fault	3. <input type="checkbox"/> Temperature
4. <input type="checkbox"/> By shock or vibration	5. <input type="checkbox"/> No clear fault	6. <input type="checkbox"/> Only as portable
7. <input type="checkbox"/> Only in a car	8. <input type="checkbox"/> Only in desktop	

B) SYMPTOM OF THE FAULT ON CMT-PART - Symptom Code _____


1. <input type="checkbox"/> Totally dead	2. <input type="checkbox"/> Selftest failure	3. <input type="checkbox"/> SIM Fail
4. <input checked="" type="checkbox"/> No service	5. <input type="checkbox"/> No calls in	6. <input type="checkbox"/> No calls out
7. <input type="checkbox"/> Keypad failure	8. <input type="checkbox"/> Display failure	9. <input type="checkbox"/> Audio failure
10. <input type="checkbox"/> Doesn't charge	11. <input type="checkbox"/> Overcharging	12. <input type="checkbox"/> Hand-free failure
13. <input type="checkbox"/> Burns fuses	14. <input type="checkbox"/> Accessory fail, which _____	
15. <input type="checkbox"/> Switches off	16. <input type="checkbox"/> Other _____	

C) OBSERVED OR MEASURED FAULT

1. <input checked="" type="checkbox"/> TX Power
2. <input type="checkbox"/> TX Phase error
3. <input type="checkbox"/> Bit Error Rate
4. <input type="checkbox"/> Burst Template
5. <input type="checkbox"/> Ramping spectra
6. <input type="checkbox"/> RX Quality
7. <input type="checkbox"/> RSSI
8. <input type="checkbox"/> Other _____

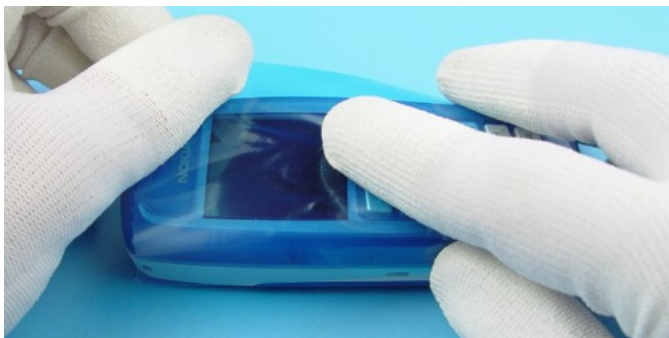
D) SYMPTOM OF THE FAULT ON PDA-PART - Symptom Code _____

1. <input type="checkbox"/> PDA doesn't start
2. <input type="checkbox"/> Internal error
3. <input type="checkbox"/> Keypad failure
4. <input type="checkbox"/> Display failure



16.FORWARDING OF REPAIRS TO SERVICE LEVEL 3 OR 4 SUPPLIERS

We recommend using the offered swap phone cartons as described in Spare Parts SB-004.



Always Protect the window with a protection film.



Put the unit under the stretch film.



Add repair documentation e.g. filled-in service note into the swap carton.



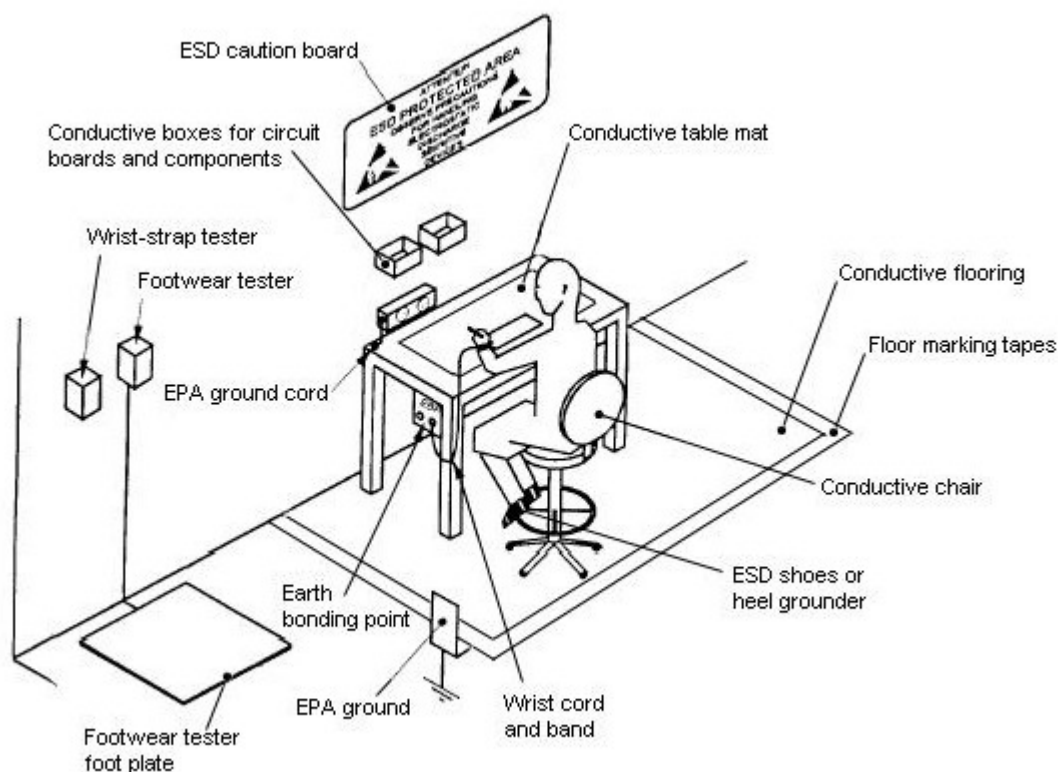
Fold the swap carton as shown in Spare Parts SB-004.



There are two different sizes of swap cartons for common mobile phones.

17.ESD PROTECTION REQUIREMENTS

Please refer to the Partner Web Site document
[Service Partner Requirements](#) in folder General instructions.



USE Conductive bags and boxes
USE ESD compatible service tools
USE Conductive wastebaskets
USE ESD gloves when handling PWBs/PCBs
USE Cleaning material without changing el. Characteristics
USE Grounded service equipment, i.e. soldering station
USE ESD clothes such as coat or frock

NO Smoking
NO Drinking
NO Eating
NO Dust
NO Useless Items
NO Normal pressured air for cleaning modules/displays



The video covers general issues concerning Electro-Static Discharge (ESD)
source: Nokia Care Point